Tutorial Using Databases Basics
Overview

1. Logging into MySQL
2. The database of the assignment
3. Executing queries on the console
4. Technical Information
5. Further Tools
Logging into MySQL (1)

- Open a terminal window
Logging into MySQL (2)

- enter: `mysql -u root acme`

  name of the mysql client program
  login as user ‘root’
  use database acme

command line prompt to execute SQL queries

enter `exit;` to leave
you work on the database `acme`

<table>
<thead>
<tr>
<th>Tables in acme</th>
</tr>
</thead>
<tbody>
<tr>
<td>log</td>
</tr>
<tr>
<td>quotes</td>
</tr>
</tbody>
</table>

2 rows in set (0.00 sec)

you will see 2 tables `log` and `quotes`
The Database on the Assignment (2)

- **Process Model**
  - A

- **Activiti Engine**

- **Database `acme`**

- **Database `activiti`**

- **MySQL server**

- **process-related information, e.g.:**
  - customers,
  - suppliers,
  - items,
  - orders,
  - ...

  *maintained by you*

- **engine-related information, e.g.:**
  - users,
  - roles,
  - active process instances,
  - ...

  *maintained by Activiti*
for the assignment you
- create tables in the database `acme`
- create process models in Activiti
- annotate process models with SQL queries
- Activiti will automatically execute these queries against the database `acme`
- use the mysql console for debugging
Executing queries on the console (1)

- `select * from `quotes`;`

```sql
mysql> select * from `quotes`;
```

```
<table>
<thead>
<tr>
<th>id</th>
<th>customer</th>
<th>item</th>
<th>itemprice</th>
<th>quantity</th>
<th>totalprice</th>
<th>state</th>
<th>created</th>
<th>handledby</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mr. Smith</td>
<td>Screws 35x6mm</td>
<td>0.02</td>
<td>120</td>
<td>3.00</td>
<td>accepted</td>
<td>2013-04-21 14:50:04</td>
<td>70</td>
</tr>
<tr>
<td>2</td>
<td>Mr. Smith</td>
<td>Nails 66mm</td>
<td>0.01</td>
<td>50</td>
<td>0.50</td>
<td>accepted</td>
<td>2013-04-21 14:50:33</td>
<td>70</td>
</tr>
</tbody>
</table>

2 rows in set (0.00 sec)
```

- `insert into `quotes` (``id``, ``customer``, ``item``) values (3, “Mr. Miller”, “Hammer”);`

```sql
mysql> insert into `quotes` (``id``, ``customer``, ``item``) values (3,"Mr. Miller", "Hammer");
Query OK, 1 row affected, 3 warnings (0.07 sec)
```

```sql
mysql> select * from `quotes`;
```

```
<table>
<thead>
<tr>
<th>id</th>
<th>customer</th>
<th>item</th>
<th>itemprice</th>
<th>quantity</th>
<th>totalprice</th>
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<td>0.50</td>
<td>accepted</td>
<td>2013-04-21 14:50:33</td>
<td>70</td>
</tr>
<tr>
<td>3</td>
<td>Mr. Miller</td>
<td>Hammer</td>
<td>0.00</td>
<td>0</td>
<td>0.00</td>
<td>NULL</td>
<td>2013-05-07 14:55:14</td>
<td>NULL</td>
</tr>
</tbody>
</table>

3 rows in set (0.00 sec)
```

- the backtick ` ` (above the TAB key) is needed around every name of a table or a column
- column `created` gets a timestamp automatically
Executing queries on the console (2)

- SQL supports the various queries
  - select – retrieve information from tables
  - insert – insert new rows into a table
  - update – change rows in a table
  - delete – delete rows from a table
  - create – create a table
  - drop – delete a table

- use a book on SQL or Google to learn more about these queries

- it is useful to directly look up MySQL tutorials, as different database systems handle some technical aspects differently
the files

~/Desktop/setup/db_create_db.sql
~/Desktop/example/db_create_tables.sql

contain the SQL queries that were used to create the database `acme` and its tables

in case you delete the database or the table `log` you can re-create it by executing the db_create_db.sql scripts:

type

    source ~/Desktop/setup/db_create_db.sql;

when you are logged into mysql on the command line
Technical Information

you won’t need this unless you start connecting to the database other than through command line or Activiti

• URL to connect to the database
• user name ‘acme_activiti’@’localhost’
• password ‘acme_password’
Further Tools

- there exist various tools to explore a database, create tables, show contents in a GUI
  - for example http://www.phpmyadmin.net/

- you can install all kinds of software inside the Virtual Machine to assist your work
  - see https://help.ubuntu.com/community/phpMyAdmin for a tutorial

- when installing software:
  user ‘bpmndata‘ has password ‘bpmndata‘
Good Luck!

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Where innovation starts